

## Analytical Evaluation of Shankha Churnam

Dr. Renuka Dharane<sup>1</sup>, Dr. Ravi R. Chavan<sup>2</sup>

<sup>1</sup>PG Scholar, <sup>2</sup>Professor & HOD,

<sup>1,2</sup>Department of Rasashastra & Bhaishajya Kalpana,

<sup>1,2</sup>Taranath Govt. Ayurvedic Medical College, Ballari, Karnataka, India

### ABSTRACT

Shankha Churnam is a herbo-mineral kharaliya formulation mentioned under *Shularogadhikara* in the text *Bhaishajya ratnavali*. It has ingredients like shankha bhasma, panchalavana, yavaani, yavakshara, shatapushpa, trikatu, jaatiphala, tankana and hingu. Shankha bhasma is the main ingredient. In the present study, shankha churnam was prepared as per the guidelines given in the classical text book *Bhaishajya ratnavali* and Physico-chemical analysis was carried out. *Shankha churnam* was prepared in the pharmacy of TGAMC, Ballari, Karnataka and was subjected to analysis on parameters like Organoleptic Characters, Loss on drying, Total Ash, Acid insoluble Ash, Water soluble ash, etc. The study showed significant result.

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**KEY WORDS:** *Shankha Churnam, Physico-chemical analysis*

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### INTRODUCTION

The analytical study reveals out chemical composition of formulation as well as their concentration. By this, it helps to ensure safety limits and accuracy of the drug. Physico- chemical analysis of the drugs are carried out by using current analytical methodologies for understanding and interpretation of physico-chemical changes occurring during and after pharmaceutical processing.

The present trend in applied instrumental medical research encourages good medical practice, clinical and research- based drug analysis. The main aim of analytical study is to find out working standards for the formulations and safe use of therapeutics.

Now a days it is the era of globalization, everything should be explained in universal language. Though Ayurveda explained much about analysis in its unique fashion, in present days there is a necessity of understanding a drug based on modern technology of analysis too.

In preparation of *Rasaushadhies* precaution should be taken throughout the whole procedure. Genuine medicines can be prepared by following Standard

operating procedures. To ensure therapeutic efficacy, traditional formulations must be standardized. To prevent adulteration, spurious products and to give protection to consumer, it is obligatory that all physico-chemical analysis must be carried out. Sample of *Shankha Churnam* was evaluated in terms of organoleptic characters and physico-chemical parameters and results were recorded.

### MATERIALS AND METHODS

Raw drugs required for preparation were collected from Kajrekar Pharmacy, Belagavi. Preparation of *Shankha Churnam* was carried out in Teaching Pharmacy of Department of P.G. Studies in RS & BK, TGAMC, Ballari.

#### Pharmaceutical Preparation

The preparation was carried out following the method mentioned in *Bhaishajya ratnavali*<sup>1</sup>.

*Shodhana* of *Shankha* is done by subjecting it to *swedana* in *dolayantra* containing *nimbu swarasa*.

*Marana* of *shankha* is done. 3 *gajaputa* are given.

*Shodhana* of *Hingu* is done by *goghrita bharjana*.

All the ingredients are powdered separately in a khalwayantra.

All the ingredients are mixed and triturated to get a homogenous product, final product was dried and stored in an air tight glass container.

### Analytical Study

Sample of *Shankha churnam* and other required things were taken as materials.

The physico-chemical analysis of the sample of *Shankha churnam* was done at ALN Rao Ayurvedic Medical College, Koppa. Organoleptic characters like colour, odour, taste and consistency were recorded along with the evaluation of parameters like Loss on drying<sup>2</sup>, Total ash<sup>3</sup>, Acid Insoluble ash<sup>3</sup>, Water soluble ash<sup>3</sup> and pH<sup>4</sup> by following standard procedures.

### RESULTS

Organoleptic characters of *Shankha churnam*

- Colour-Greyish green
- Taste- Salty pungent
- Smell-Characteristic
- Consistency or touch- Fine smooth powder

**Table1: Results of Physico-Chemical analysis of *Shankha churnam***

Parameters	Results
Loss on drying	2.68%
Total Ash	45.01% w/w
Acid insoluble ash	2.98%
Water soluble ash	86.01%
pH	8.08±0.10

### Loss on Drying

In the present study, *Shankha churnam* possessed 2.68% loss on drying at 105°C.

### Total Ash Value

The inorganic material present in the drug constitutes ash value. The percentage of Total Ash value of *Shankha churnam* is 45.01%.

### Acid Insoluble Ash

The Acid Insoluble Ash is the residue obtained after boiling the total ash with Dilute HCl and igniting the remaining insoluble matter, this measures the amount of acid insoluble materials like Silica. The acid insoluble ash of *Shankha churnam* is 2.98%.

### Water Soluble Ash

Water soluble ash is difference in between total ash and residue after treatment of total ash with water. The percentage of water soluble ash value of *Shankha churnam* is 86.01%

### pH Value

The pH value of *Shankha churnam* is 8.08±0.10. It is alkaline in nature.

### DISCUSSION

Discussion on Loss on drying:-

Loss on drying of *Shankha churnam* is 2.68%

So, it can be stated that *Shankha churnam* possess moisture content in very less amount and hence very rare chance of bacterial and fungal growth and also the drug is having least or nil hygroscopic activity and the drug deterioration chance or contaminations chances etc. are very less. Concurrently it can be stated that the shelf life of the drug is also more.

Discussion on Total Ash Value:-

Total ash value of *Shankha churnam* Is 45.01%w/w.

This indicate that in the present study herbo-mineral preparation contains less amount of inorganic constituents and more amount of organic and bio human available particles.

Discussion on Acid insoluble ash:-

Acid insoluble ash of *Shankha churnam* Is 2.98%.

More the acid insoluble ash, less the drug absorption in acid media of stomach. Hence the preparation is absorbable in acid media of stomach.

Discussion on Water soluble ash:-

Water soluble ash value of *Shankha churnam* 86.01%.

It denotes water is a soluble media for it. The salivary secretions, gastric enzymes play an important role in the efficacy of drug. *Shankha churnam* is a herbo-mineral formulation and the presence of inorganic substance in the formulation might make this drug less soluble in the water media.

Discussion on pH:-

pH value of *Shankha churnam*

is 8.08±0.10. All the products were found to be alkaline in nature which indicates that they can be easily absorbed in stomach by passive diffusion

Analytical study is carried out to check drug quality. For this purpose, some analytical tests are performed. In the present study when the sample of *Shankha churnam*

was analyzed, their analytical results are within permissible limits. Analytical parameters of the current study are depicted in Table No. 1. Loss on

drying is designed to measure moisture content and volatile matter in a sample and pH value provides a useful practice means for the quantitative indication of the acidity or alkalinity of a solution. Rasaushadhi is considered better if ash value is more. Acid insoluble ash is non physiological ash which shows presence of Silica content. In current study, it is in permissible limits.

## CONCLUSION

Pharmaceutical processing increases the potency of the formulation hence, increasing the clinical efficacy and also makes it stable when exposed to external environment. Quality of the end product can be accessed by performing analytical study. It is the need of the time to standardize classical Ayurvedic formulations for global acceptability of these formulation.

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